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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,602	12/28/2000	Kishan B. Shah	1150	6767

			EXAMINER
5514	7590	11/02/2004	COUSO, YON JUNG

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NEW YORK, NY 10112

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-8,10-15 and 21-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-8, 10-15, 21-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

1.   Applicant's arguments with respect to claims 1, 8, 10-15, and 21-23 have been

considered but are moot in view of the new ground(s) of rejection.

2.   The objection made to the claims 3 and 15 has been withdrawn in response to

the amendment.

3.   The rejection under 35 USC 112 has been withdrawn in response to the

amendment.

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the

invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 1, 3-8, 10-15, 21-23 are rejected under 35 U.S.C. 102(e) as being

anticipated by Takaoka (U.S. Patent 6,137,905, previously cited, "Takaoka") in view of

Sazawa (U.S. Patent 6,1754,369).

In regards to claim 1, Takaoka discloses a method (Fig 24) of recognizing at least one object in a digitized representation of an image, comprising the steps of: receiving (col 21, lines 50-57) the digitized representation of the image, the representation having a first resolution; creating a reduced-resolution version of the image (col 23, lines 17-24) responsive to the digitized representation of the image, the reduced-resolution version of the image having a second resolution lower than the first resolution; providing a plurality of sets (col 22, lines 37-43, languages) of initial conditions, the initial conditions including at least a condition for character recognition-processing of the image; for each of the sets of initial conditions, identifying each confidence level (col 22, lines 44-55) of character recognition by first character recognition-processing of the reduced resolution version of the image having the second resolution based on each of the set of initial conditions; selecting at least one set (col 22, lines 56-62, and col 28, lines 8-22) from the plurality of sets of initial conditions based on each confidence level in said identifying step; and recognizing (col 22, lines 56-62) the objects represented in the digitized representation of the image having the first resolution based on the set of initial conditions selected in said selecting step.

Furthermore, Takaoka discloses in col 28, lines 8-22, a decision unit 104 that compares the entered degrees of recognition confidence C1-Cn and, on the basis of the comparison, outputs a decision signal to the selector 105. The selector 105 then selects a recognition result 1-n in accordance with this decision signal. Thus, the decision unit 104 selects at least one set (language) from the plurality of sets (Japanese, English,

etc) of initial conditions based on each confidence level (C1-Cn) in said identifying step,

as recited in the claim.

Even though Takaoka clearly teaches resolution conversion from higher

resolution to lower resolution (column 23, lines 17-24) and also clearly teaches first and

second character recognition process (column 22, lines 56-62), Takaoka does not teach

in detail on first and second character recognition processing based on the resolution.

Sazawa discloses image processing apparatus with character recognizing unit including

a first recognition process for lower resolution image and second character recognition

process for high resolution image (26 in figure 1).

Given the references at the time the invention made, it would have been obvious

to one of ordinary skills in the art to incorporate the character recognition unit 26 in

Sazawa into the recognition unit taught in Takaoka which already teaches first

recognition unit 102 and second recognition unit 103, since only modification required

would be to designate each recognition unit for specified resolution. Takaoka already

teaches resolution conversion from higher resolution to lower resolution (column 23,

lines 17-24) and teaches first and second character recognition process (column 22,

lines 56-62).

In regards to claim 3, Takaoka further discloses in col 27, line 13, said selecting

step selecting one set from the plurality of sets of initial conditions based on a highest

confidence level identified in said identifying step.

In regards to claim 4, Takaoka further discloses in col 22, line 49, said selecting step selecting at least one set from a plurality of sets of initial conditions based on a confidence level exceeding a threshold.

In regards to claim 5, Takaoka further discloses in col 23, lines 17-24, said creating step creates the reduced resolution version of the image by calculating an average of a plurality of pixels of the digitized representation of the image having the first resolution.

In regards to claim 6, Takaoka further discloses in col 27, line 35, the method additionally comprising the step of recognizing at least one additional object represented in the digitized representation of the image, responsive to the value of at least one initial condition identified responsive to a confidence level exceeding a threshold.

In regards to claim 7, Takaoka further discloses the method additionally comprising the steps of: attempting to recognize at least one additional object (col 22, lines 37-43, English language) represented in the digitized representation of the image responsive to the value of at least one initial condition identified, the attempting step comprising the step of producing a confidence level of the attempt (col 22, lines 44-55); and responsive to the confidence level of the attempt below a threshold (col 22, line 49): repeating the identifying step (col 28, lines 23-67); and recognizing the at least one object represented in the digitized representation of the image responsive to the value of each of the at least one initial condition identified during the repeating step (col 29, lines 4-17).

In regards to claims 8, 10-14, all the elements set forth in these claims have been addressed in the argument of claims 1-7, respectively.

In regards to claim 15, Takaoka discloses a system for recognizing objects, the system comprising: a downsampler (col 21, lines 50-57) having an input for receiving a representation of an image having a first resolution, the downsampler (col 23, lines 17-24) for producing and providing at an output thereof a reduced-resolution version of the image responsive to the representation of the image received at the downsampler input, the reduced resolution version of the image having a second resolution lower than the first resolution; and a recognition engine (col 22, lines 56-62) having a first input coupled to the downsampler output for receiving the reduced-resolution version of the image and a second input for receiving the representation of the image, the recognition engine for recognizing at least one object (col 22, lines 28-36, Japanese language) in the digitized representation of the image by a method comprising the steps of: providing a plurality of sets of initial conditions (col 22, lines 56-62, different languages), the initial conditions including at least a condition for character recognition-processing of the image; for each of the sets of initial conditions, identifying each confidence level (col 22, lines 44-55) of character recognition by first character recognition-processing of the reduced resolution version of the image having the second resolution based on each of the sets of initial conditions; selecting at least one set (col 22, lines 56-62, and col 28, lines 8-22) from the plurality of sets of initial conditions based on each confidence level identified in said identifying step; and second character recognition processing of the objects (col 22, lines 56-62, recognition result) represented in the digitized representation of the image

having the first resolution based on the set of initial conditions selected in said selecting step.

Even though Takaoka clearly teaches resolution conversion from higher resolution to lower resolution (column 23, lines 17-24) and also clearly teaches first and second character recognition process (column 22, lines 56-62), Takaoka does not teach in detail on first and second character recognition processing based on the resolution. Sazawa discloses image processing apparatus with character recognizing unit including a first recognition process for lower resolution image and second character recognition process for high resolution image (26 in figure 1).

Given the references at the time the invention made, it would have been obvious to one of ordinary skills in the art to incorporate the character recognition unit 26 in Sazawa into the recognition unit taught in Takaoka which already teaches first recognition unit 102 and second recognition unit 103, since only modification required would be to designate each recognition unit for specified resolution. Takaoka already teaches resolution conversion from higher resolution to lower resolution (column 23, lines 17-24) and teaches first and second character recognition process (column 22, lines 56-62).

In regards to claim 21, Takaoka further discloses in col 28, lines 2-8 ("languages" as type of object), the set of initial conditions including at least one of a threshold grayscale value, a determination of skew correction and a determination of type of object.
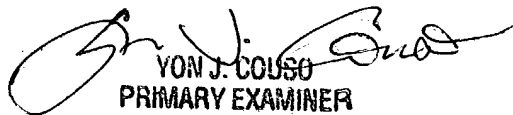
In regards to claims 22 and 23, all the additional limitations have been addressed in the argument of claim 26.

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yon Couso whose telephone number is (703) 305-4779. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YON J. COUSO
PRIMARY EXAMINER

YJC

October 28, 2004